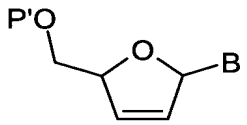
CLAIMS

1. Process for preparing 2',3'-didehydro-2',3'-dideoxynucleosides of formula



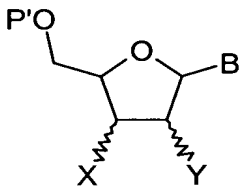
(I)

in which

P' represents hydrogen or a suitable protecting group P, and

B represents a natural or modified, optionally substituted purine or pyrimidine base or a five- or six-membered monocyclic or eleven- or twelve-membered bicyclic, optionally substituted heterocyclic system containing at least one nitrogen atom;

which comprises the reductive elimination reaction of the compound of formula



(II)

in which

X and Y represent, alternately, a halogen or an acyloxy group RCOO-,

P' and B have the meanings given above,

by reaction with zinc metal and a suitable activating agent,

characterized in that the divalent zinc is removed by precipitation, from an organic phase, of the corresponding zinc sulfide, by addition of a solution of an alkali metal or alkaline-earth metal sulfide to the said organic phase.

2. Process according to Claim 1, in which:

P' represents an acyl group RCO-, in which R represents a C_1-C_5 alkyl R^1, preferably a methyl, or a group $R^1COOC(R^2R^3)$-, in which R^1, R^2 and R^3 represent a C_1-C_5 alkyl, preferably a methyl;

B represents an optionally substituted natural purine or pyrimidine base, preferably adenine, inosine, 5-F-cytosine, hypoxanthine or thymine;

X and Y represent, alternatively, bromine and an acyloxy group RCOO-, in which R represents a C_1-C_5 alkyl R^1, preferably methyl, or a group $R^1COOC(R^2R^3)$-, in which R^1, R^2 and R^3 represent a C_1-C_5 alkyl R^1, preferably a methyl.

3. Process according to Claim 1, in which the said activating agent is chosen from copper, acetic acid and ammonium or phosphonium salts, preferably ammonium or phosphonium salts.

4. Process according to Claim 1, in which the said organic phase is chosen from solvents such as tetrahydrofuran, dimethylacetamide, alcohols, acetonitrile, chlorinated solvents and dimethyl sulfoxide, and mixtures thereof.

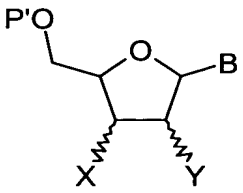
5. Process according to Claim 1, in which the said sulfide solution comprises a polar solvent chosen from dipolar aprotic solvents and water, preferably water.

6. Process according to Claim 1, in which the said sulfide solution comprises the chosen alkali metal or alkaline-earth metal sulfide in an amount of at least one equivalent relative to the starting material, preferably in slight excess.

7. Process according to Claim 1, in which the said mineral sulfide is an alkali metal or alkaline-earth metal sulfide, preferably sodium sulfide.

8. Process according to Claim 1, in which the precipitated zinc sulfide is removed by filtration.

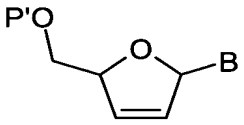
9. Process according to Claim 1, which further comprises the reduction reaction of the double bond of the compound of formula I to give the corresponding 2',3'-dideoxynucleoside of formula



(II)

in which X = Y = H, and P' and B have the meanings given above.

10. Process according to Claim 1, which further comprises the deprotection reaction of a compound of formula



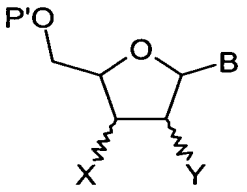
(I)

in which P' represents a protecting group P, and B has the meanings given above,

to give the corresponding compound of formula I,

in which P' represents hydrogen.

11. Process according to Claim 9, which further comprises the deprotection reaction of a compound of formula



(II)

in which P' represents a protecting group P, X and Y represent H, and B has the meanings given above,

to give the corresponding compound of formula II,

in which P' represents hydrogen.

12. Process for preparing 5-fluoro-2',3'-dideoxy-2',3'-didehydro-β -D-cytidine, stavudine, dideoxyadenosine, didanosine and zalcitabine, which comprises a process according to Claims 1 to 10.